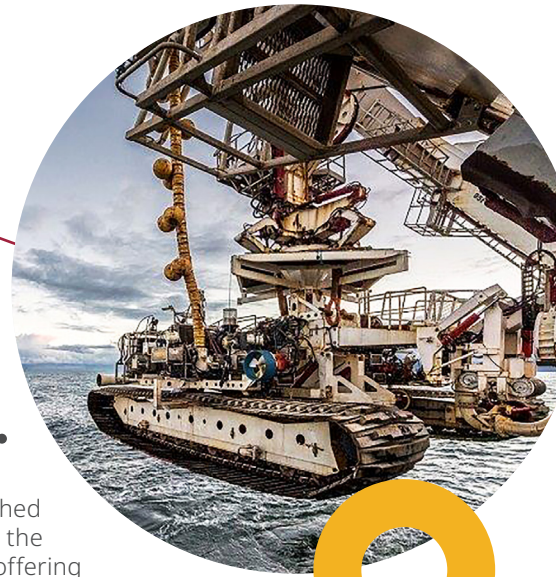


# i-Trencher

## Trenching System



# The **i-Trencher** provides precise subsea trenching, designed for depths up to 2.7 meters with exceptional accuracy and efficiency.



The i-Trencher Trenching System redefines subsea cable and product burial with unmatched precision and efficiency. Engineered to trench and bury products up to 2.7 meters below the seabed, this advanced system delivers the rock-cutting power of pipeline ploughs while offering superior control and maneuverability—without requiring a high bollard pull support vessel.

## **Versatile and Reliable Performance**

Designed for both rigid and flexible products, including HVAC, HVDC, and fiber optic cables, the i-Trencher excels in diverse applications:

- Inter-country interconnector cables
- Offshore wind farm inter-array and export cables
- Electrification of offshore installations

With a proven track record, the i-Trencher has successfully buried over 800 km of cables across European waters and tackled challenging calcarenite rock formations in the Middle East. Its vertical loading system ensures seamless operations with no lateral offset, enhancing efficiency and reliability.

## **Streamlined Operations with a Single Vessel**

When paired with T-1200 or T-1500 systems on a single trenching support vessel, the i-Trencher adapts effortlessly to varying seabed conditions. This powerful combination of jetting and heavy soils trenching delivers a cost-effective, one-vessel solution for complex projects.

## **A Legacy of Success**

Enhanced with cutting-edge features, the i-Trencher continues to set the standard for subsea trenching. Its robust design and extensive project experience make it the trusted choice for offshore energy projects worldwide. Choose the i-Trencher for precision, versatility, and proven performance in subsea trenching.



### **Experience**

Helix Robotics Solutions operate a fleet of ROVs worldwide, seabed jet trenchers and several multi-purpose ROV and construction support vessels via strategic offices in key areas of the world.



### **Innovation**

Helix Robotics Solutions works closely with our clients and vendors to seek and resolve complex technical developments to engineer practical solutions and implement in the most efficient, safe and economical ways possible.



### **Value**

Helix Robotics Solutions is one of the most innovative and reliable specialty marine contractors in the world. Focusing on providing leading edge underwater, unmanned services in extreme environments, Helix strives to deliver the highest value to its customers.

## TECHNICAL SPECIFICATIONS

### Main Characteristics

Width	10.0 m
Height	6.1 m
Long (Landing)	12.6 m
Long (Deployed)	17.4 m
Max Weight in Air	79 t in trench mode 89 t in open trench mode 89 t in backfill mode
Weight in Seawater	65 t in trench mode 75 t in open trench mode 75 t in backfill mode
Depth Rating	1,500 m
Environmental Air Temperature Range	40° C to -15° C
Humidity	100%
Seawater Temperature	35° C
Vehicle Power	1,250 kW
Cut Depth	1.5 m & 2 m as standard Options with modifications to increase to 2.7 m max

### Product handling

Cables	80 mm diameter minimum
Umbilicals	80 mm diameter minimum
Rigid Pipe	Up to 16 in diameter
Flexible Pipe	Up to 18 in diameter
Piggybacks	Maximum clearance 800 mm diameter

### Surveillance

1 x dancing arm complete with FOG gyro
1 x obstacle avoidance sensor
2 x trench profile sonar
1 x altimeter
1 x hydrophone
1 x depth transducer
2 x multi beam sonar heads
1 x responder
1 x magnetic compass
1 x gyroscope
8 x pans and tilts
10 x cameras
10 x lights

### Traction & Bollard Specifications

Thrusters	2 x 850 kgs (bollard)
Traction	200 kN Subject to ground conditions
Ground Pressure	Minimum 10 kPa soils
Speed	1,500 m / hr Subject to ground conditions

### LARS

<b>A-Frame</b>	
Safe Working Load	95 t SWL
Overboard Reach	7.1 m
Inboard Reach	8.5 m
Distance Between Legs	12 m
Weight	75 t
Snubber Telescopic Distance	1.4 m

### Umbilical Winch

Dimensions	4.5 m long 6.5 m wide 4.4 m high
Winch Weight	45 t
Umbilical Weight	21 t
Gross Weight	60 t
SWL	25 t
Umbilical Length	Max 1,800 m double armored

### Lift Winch

Dimensions	4.3 m long 4.3 m long 3.4 m high
Winch Weight	45 t
Wire Weight	41 t
Gross Weight	86 t
SWL	90 t at sea state 4
Wire	Max 1,700 m

### Power Van

Enclosed cabin to house transformer and HV supplies	
Size	40 ft ISO container
Power Requirement	440 v, 3 ph, 2.3 MVA
Complete System Power Requirement	4.5 MVA

### Tool Specifications

#### Burial Tools

Single vertical mounted digger chain  
Proven tungsten carbide conical pick design

#### Spoil Removal

2 x forward ejectors and single dredge pump of total power 800 kW Capable of passing 220 mm diameter objects

#### Backfill

2 x horizontally mounted digger chains and spoil blades

#### Open Trench

2 x angled mounted to suit required profile  
Proven tungsten carbide conical pick design

#### Rock Cutting

Single vertically mounted digger chain  
Alternative pick patterns and designs available to customize chain to suit specific seabeds

#### Roller Boxes

2 x 170kN rated for both roller boxes and pipe grabs

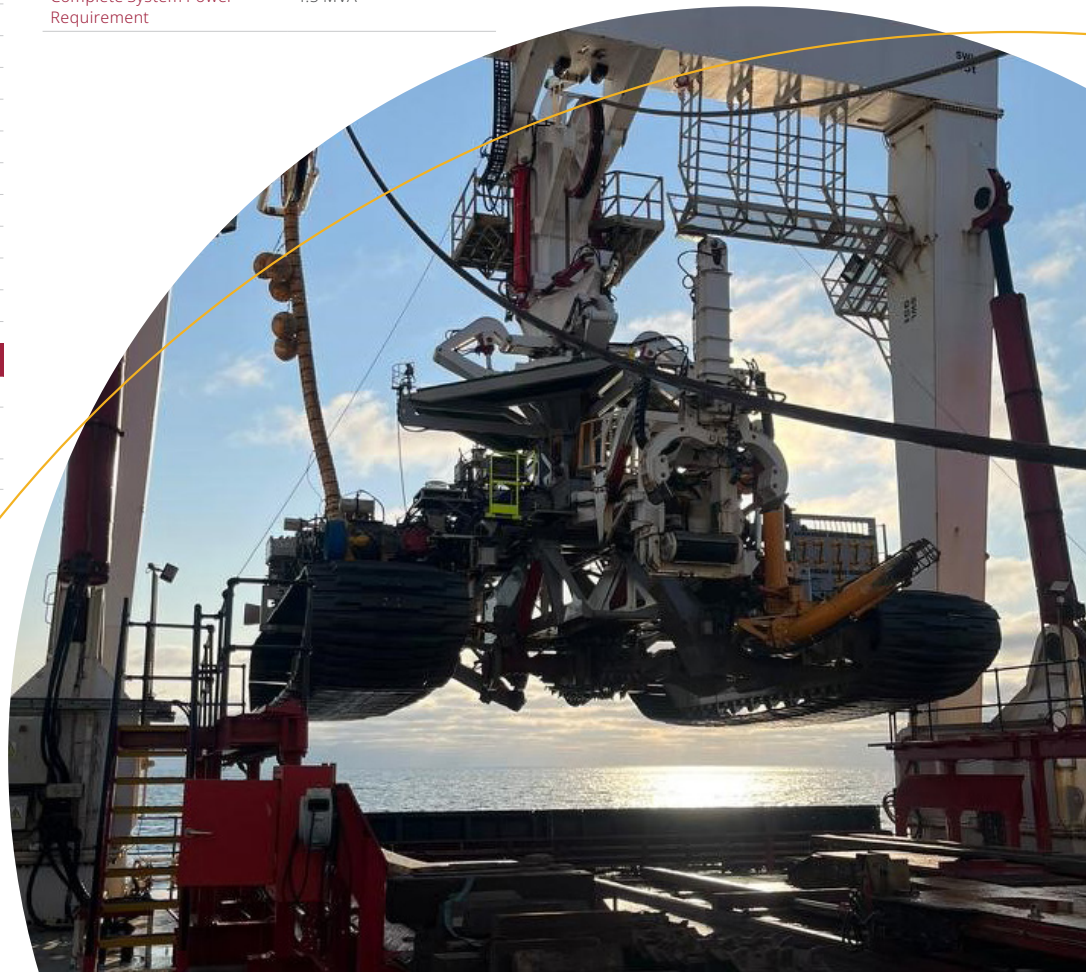
#### Lift Point

Bucket and bullet for steel lift rope  
4 x spring latches - fail safe design

### Speed Trenching Conditions

Capable of trenching in clays of up to 600kpa at speeds ranging from 50-200m/hr.

Capable of ripping through fractured rock (calcarenite) at speeds of up to 100m/hr





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